

THE MINERAL INDUSTRY OF TURKMENISTAN

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Turkmenistan, occupying an area of 488,100 square kilometers (an area slightly larger than the State of California), is the fourth largest country in landmass to form from the former Soviet Union (FSU), but the country has only 4.37 million inhabitants, which ranks it among the smaller in terms of population of the countries of the FSU (Central Intelligence Agency, 1999, World fact book, accessed February 8, 2000, at URL <http://www.odci.gov/cia/publications/factbook/tx.html>).

Turkmenistan has substantial energy resources, including natural gas and oil. It had ranked among the world's leading gas producers and had been the second largest natural gas producer in the FSU after Russia. However, by 1998, Turkmenistan had fallen to fourth place in natural gas production in the FSU following Russia, Uzbekistan, and Ukraine (U.S. Department of Energy, January 18, 2000, International energy annual, accessed February 8, 2000, at URL <http://www.eia.doe.gov/emeu/iea/contents.html>). The country's gas production had fallen by about 80% compared with that of 1991.

Turkmenistan considered its major opportunity for economic growth in the production of gas and oil. Turkmenistan contained proven gas reserves of 101 trillion cubic feet (2.86 trillion cubic meters) (U.S. Department of Energy, September 1999, Country analysis briefs—Turkmenistan, accessed February 8, 2000, at URL <http://www.eia.doe.gov/emeu/cabs/turkmen.html>). The country, with the participation of foreign investors, was counting on the development of its large natural gas reserves being the central focus for its economic development (U.S. Department of Energy, September 1997, Country analysis briefs—Turkmenistan, accessed August 3, 1998, at URL <http://www.eia.doe.gov/emeu/cabs/turkmen.html>).

The country also has a wide variety of industrial mineral resources, including bromine, iodine, salt, sodium sulfate, and sulfur. The Garabogaz Aylagy lagoon off the Caspian Sea was one of the world's largest sources of raw materials for the chemical industry, with commercial interest in the salts of this region having begun at the end of the 19th century (Weisman and McIlveen, 1983, p. 1214,1215). Production from the Garabogaz Aylagy accounted for almost 45% of the FSU's sodium sulfate production and all of the FSU's production of epsomite and medicinal Glauber's salt (Aganbegyan and Ovezgel'byev, 1988, p. 97).

Turkmenistan was seeking investors for a number of industrial minerals production projects proposed by Turkmenistan's Ministry of Energy and Industry, which Turkmenistan believed

that, along with energy, have the potential to generate significant revenue for the country (U.S. Department of Commerce, July 29, 1997, IMI—Turkmenistan—List of investment projects in the chemical industry, accessed June 4, 1998, at URL <http://www.itaiep.doc.gov/bisnis/cables/970730t2.htm>).

Gas from Turkmenistan was being exported to consumers through pipeline routes controlled by Russia to the Caucasus countries, Russia, Ukraine, and countries of Eastern Europe and Western Europe. FSU countries, including Armenia, Georgia, and Ukraine, had been receiving gas from Turkmenistan without being able to pay for it. Russia insisted that Turkmenistan continue supplying these countries, but Turkmenistan, which did not want to supply gas without getting paid, had intermittently stopped shipments and accordingly reduced its gas production. Turkmenistan was faced with the problem that the only alternative to using the pipeline routes controlled by Russia was to build new pipelines (U.S. Department of Energy, January 18, 2000, International energy annual, accessed February 8, 2000, at URL <http://www.eia.doe.gov/emeu/iea/contents.html>).

In conjunction with Western firms, the country was in the process of developing new alternate pipeline routes to get its gas to world markets. Upon completion, these new routes would considerably boost the country's foreign currency earnings. Turkmenistan, however, like other countries with large earnings from the export of oil or gas, will have to ensure its future through balanced development. The country has a number of important industrial mineral resources that could be used to supply regional and world markets with raw materials and downstream products. The country will be better able to focus on the development of these resources and mineral products after the issue of gas transport is resolved, which will provide the country with a more secure economic base and a more favorable investment climate.

For more extensive coverage of the mineral industry of Turkmenistan, see the 1997 Minerals Yearbook, Volume III, Mineral Industries of Europe and Central Eurasia.

References Cited

- Aganbegyan, A.G., and Ovezgel'byev, O.G., 1998, Kara-Bog-Gaz-Gol, vchera, segodnya, zavtra [The Kara-Bog-Gaz-Gol, yesterday, today, and tomorrow]: Ashkhabad, Bylym.
- Weisman, W.I., and McIlveen, Sid, Jr., 1983, Sodium sulfate deposits, *in* LeFond, S.J., ed., Industrial minerals and rocks: New York, American Institute of Mining, Metallurgical, and Petroleum Engineers, Inc., 1,446 p.

TABLE 1
TURKMENISTAN: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity	1994	1995	1996	1997	1998 e/	
Bentonite	NA	NA	137,161	137,321	135,000	
Bischofite	33,500	28,266	3,230	90	90	
Cement	689,900 r/	437,300	450,500	450,000 r/ e/	450,000	
Epsomite	31,500	1,500	14,250	NA	NA	
Ferrous bromide (51% Br)	158	200	255	83	80	
Gypsum	150,000 e/	216,427	169,577	35,324	35,000	
Iodine	251	137	35	87	85	
Lime	NA	NA	9,000	16,000	15,000	
Natural gas	million cubic meters	35,700	32,300	35,200	17,300	75,000
Nitrogen, N content of ammonia	83,430	83,000 e/	83,433	60,959	75,000	
Petroleum, crude	4,400,000	4,500,000	4,300,000	4,700,000	6,500,000	
Salt	300,000 e/	277,000	255,738	216,500	200,000	
Sodium sulfate	67,500	22,226	30,820	56,552	55,000	
Sulfur	47,500	7,913	8,112	9,227	9,000	

e/ Estimated. r/ Revised. NA Not available.

1/ Table includes data available through February 9, 2000.

TABLE 2
TURKMENISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 1998

(Thousand metric tons unless otherwise specified)

Commodity	Major operating company	Location of main facilities	Annual capacity e/
Ammonia	Maryzaot Association	Mary region	400,000. 1/
Bentonite	Oglanly Mine	Oglanly region	100,000. 1/
Cement	Byuzmein cement plant	Byuzmein	1,000,000. 1/
Gypsum	IA Turkmenmineral	Mukry, Tagorin deposits	300,000. 1/
Do.	Wastes from Gaourdak sulfur deposit	Gaourdak	400,000. 1/
Iodine and bromine	Cheleken plant	Cheleken region	355 (iodine). 1/ 4,740 (bromine). 1/
Do.	Nebitdag plant	Vyshka	255 (iodine). 1/ 2,370 (bromine). 1/
Natural gas	billion cubic meters	Deposits: Achakskoye, Gygyrlinskoye, East and West Shatlykyskiye, North and South Naipskiye, Dauletabad-Donmezskoye	Northeastern, eastern southeastern, and southwestern part of country 90 total.
Petroleum:			
Crude	Deposits: Nebitdag, Cheleken, Kum Dag, Koturtepinskoye, Barsa-Gelmesskoye, Burunskoye, Kuydzhikskoye, Okaremskoye, Gograndagskoye, Kamyshldzhinskoye	Southwestern part of country on Caspian Sea	5,500,000 total.
Refined	Chardzhou refinery	Chardzhou	6,000,000.
Do.	Turkmenbashi refinery	Krasnovodsk	5,000,000.
Sodium sulfate	Karabogazsulfate Association	Bekdash	400,000. 1/
Sulfur	IA Turkmenmineral	Gaourdak deposit	340,000. 1/

e/ Estimated.

1/ Reported number.